



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D4883-5

Job Sheet 192637



Part No: D4883-5

Job Qty: 5 pcs

Part Name: End Fitting



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 3/28/19

Job Tracking No:

Due Date: 5/15/19

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG REV C SHEET 3 IPP REV A RQ VERIFIED BY DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter / Supplier Lead Time	Sign-off
					Setup Hrs	Run Hrs		
100	Doosan - 1	5 pcs	5/15/19	5/15/19	0.00	2.14	Doosan - 1	17/05/01
110	QC 2	5 pcs	5/15/19	5/15/19	0.00	0.00	QC 2 - 1	
							QC 2 - 12	
							QC 2 - 14	
							QC 2 - 17	
							QC 2 - 19	
							QC 2 - 2	
							QC 2 - 20	
							QC 2 - 22	
							QC 2 - 23	
							QC 2 - 25	
							QC 2 - 32	
							QC 2 - 33	17/05/01
							QC 2 - 35	
							QC 2 - 39	
							QC 2 - 4	
							QC 2 - 40	
							QC 2 - 44	
							QC 2 - 45	
							QC 2 - 48	
							QC 2 - 49	
							QC 2 - 50	
							QC 2 - 51	
							QC 2 - 52	
							QC 2 - 56	
							QC 2 - 57	
							QC 2 - 62	
							QC 2 - 63	
							QC 2 - 8	
							QC 2 - 66	
							QC 2 - 64	



Container No: S177046



Part: D4883-5

Job No: 192637

Serial No/Batch: S177046

Revision:

Inspector:

Exp Date:

Instructions: Various STC's

Date: 05/01/19

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

120 HAAS 4 Axis - B4B	5 pcs	5/15/19	0.29 4.63	QC 2 - 65	
				QC 2 - 5	
				HAAS - 1 - B4B	19-07-11
				HAAS - 2 - B4B	
				HAAS - 3 - B4B	
				HAAS - 4 - B4B	
130 QC 2	5 pcs	5/15/19	0.00 0.00	QC 2 - 1	
				QC 2 - 12	
				QC 2 - 14	
				QC 2 - 17	
				QC 2 - 19	
				QC 2 - 2	
				QC 2 - 20	19-07-11
				QC 2 - 22	
				QC 2 - 23	
				QC 2 - 25	
				QC 2 - 32	
				QC 2 - 33	
				QC 2 - 35	
				QC 2 - 39	
				QC 2 - 4	
				QC 2 - 40	
				QC 2 - 44	
				QC 2 - 45	
				QC 2 - 48	
				QC 2 - 49	
				QC 2 - 50	
				QC 2 - 51	
				QC 2 - 52	
				QC 2 - 56	
				QC 2 - 57	
				QC 2 - 62	
				QC 2 - 63	
				QC 2 - 8	
				QC 2 - 66	
				QC 2 - 64	
				QC 2 - 65	
				QC 2 - 5	
140 QC 8	5 pcs	5/15/19	0.00 0.00	QC 8 - 12	19-07-11
				QC 8 - 14	
				QC 8 - 17	
				QC 8 - 20	
				QC 8 - 25	
				QC 8 - 3	
				QC 8 - 32	
				QC 8 - 33	
				QC 8 - 35	
				QC 8 - 39	
				QC 8 - 4	
				QC 8 - 44	
				QC 8 - 45	
				QC 8 - 49	
				QC 8 - 58	
				QC 8 - 8	
				QC 8 - 9	
				QC 8 - 68	
				QC 8 - 67	
				QC 8 - 1 (A)	
				QC 8 - 47	

					QC 8 - 40	
					QC 8 - 52	
					QC 8 - 23	
150	Outsource - 2 - NDT per QSI038	5 pcs	5/15/19		SKY002-VC	5
						2019-07-12
160	Packaging 2-1 - Receive - B4B	5 pcs	5/15/19	0.00 0.00	Packaging 2 - 1 - B4B	
					Packaging 2 - 2 - B4B	
					Packaging 2 - 3 - B4B	
					Packaging 2 - 5 - B4B	
					Packaging 2 - 4 - B4B	
					Packaging 2 - 6 - B4B	
					Packaging 2 - 7 - B4B	
					Packaging 2 - 8 - B4B	
					Packaging 2 - 9 - B4B	
					Packaging 2 - 10 - B4B	
					Packaging 2 - 11 - B4B	
					Packaging 2 - 12 - B4B	
					Packaging 2 - 13 - B4B	
					Packaging 2 - 14 - B4B	
					Packaging 2 - 15 - B4B	
					Packaging 2 - 16 - B4B	
					Packaging 2 - 17 - B4B	
					Packaging 2 - 18 - B4B	
					Packaging 2 - 19 - B4B	
					Packaging 2 - 20 - B4B	
					Packaging 2 - 21 - B4B	
					Packaging 2 - 22 - B4B	
					Packaging 2 - 23 - B4B	
					Packaging 2 - 24 - B4B	
					Packaging 2 - 25 - B4B	
					Packaging 2 - 26 - B4B	
					Packaging 2 - 27 - B4B	
					Packaging 2 - 28 - B4B	
					Packaging 2 - 29 - B4B	
					Packaging 2 - 30 - B4B	
					Packaging 2 - 31 - B4B	
					Packaging 2 - 32 - B4B	
					Packaging 2 - 33 - B4B	
					Packaging 2 - 34 - B4B	
					Packaging 2 - 35 - B4B	
					Packaging 2 - 36 - B4B	
190	QC 5	5 pcs	5/15/19	0.00 0.00	QC 5 - 10	
					QC 5 - 12	
					QC 5 - 17	
					QC 5 - 18	
					QC 5 - 19	
					QC 5 - 22	
					QC 5 - 24	
					QC 5 - 3	
					QC 5 - 43	
					QC 5 - 49	
					QC 5 - 51	
					QC 5 - 58	
					QC 5 - 68	
					QC 5 - 9	
					QC 5 - 50	
					QC 5 - 30	
					QC 5 - 40	
						JUL 12 2019 9-89
200	Packaging 3-1 - Stock - B4B	5 pcs	5/15/19	0.00 0.00	Packaging 3 - 1 - B4B	

					Packaging 3 - 2 - B4B	
					Packaging 3 - 3 - B4B	
					Packaging 3 - 4 - B4B	
					Packaging 3 - 5 - B4B	
					Packaging 3 - 6 - B4B	
					Packaging 3 - 7 - B4B	
					Packaging 3 - 8 - B4B	
					Packaging 3 - 9 - B4B	
					Packaging 3 - 10 - B4B	
					Packaging 3 - 11 - B4B	
					Packaging 3 - 12 - B4B	
					Packaging 3 - 13 - B4B	
					Packaging 3 - 14 - B4B	
					Packaging 3 - 15 - B4B	
					Packaging 3 - 16 - B4B	
					Packaging 3 - 17 - B4B	
					Packaging 3 - 18 - B4B	
					Packaging 3 - 19 - B4B	
					Packaging 3 - 20 - B4B	
					Packaging 3 - 21 - B4B	
					Packaging 3 - 22 - B4B	
					Packaging 3 - 23 - B4B	PC ST134
					Packaging 3 - 24 - B4B	
					Packaging 3 - 25 - B4B	
					Packaging 3 - 26 - B4B	
					Packaging 3 - 27 - B4B	
					Packaging 3 - 28 - B4B	
					Packaging 3 - 29 - B4B	
					Packaging 3 - 30 - B4B	
					Packaging 3 - 31 - B4B	
					Packaging 3 - 32 - B4B	
					Packaging 3 - 33 - B4B	
					Packaging 3 - 34 - B4B	
					Packaging 3 - 35 - B4B	
					Packaging 3 - 36 - B4B	
210 QC 21 - SA	5 pcs	5/15/19	0.00 0.00		QC 21 - SA - 21	JUL 15 2018
					QC 21 - SA - 70	
					QC 21 - SA - 53	

Part Op 100 - (Doosan Lathe) 1- Turn as per Dwg. D4883-5 Turning Detail & Folio FB254. 2- USE DT10005 For sizing blanks.
 Descriptions: 110 - (QC2- Inspect parts off machine FAI/FAIB)
 120 - (HAAS CNC Vertical Machine) 1-Machine as per Folio Fb254 & Dwg D4883-5 END FITTING. deburr and Break all sharp edges.
 130 - (QC2- Inspect parts off machine FAI/FAIB)
 140 - (QC8- Inspect parts - second check)
 150 - (Outsource process - NDT per QSI038 4.1) ssue P/O: 43988
 160 - (Receive & Inspect for Damage & Mat'l Certs) Certificate of conformity is req'd.
 190 - (QC5- Inspect part completeness to step on W/O)
 200 - (Identify as per dwg & Stock Location:)
 210 - (QC21- Final Inspection - Work Order Release)

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M17-4-H900-R2.000	17-4 SS H900 Round Bar 2.000"	1.1800 ft (.236 ea)	100-Doosan - 1	M128314-95 18 3/8

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Doosan - 1	M17-4-H900-R2.000	1	18	0

Part Specifications					
Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	End Fitting	0.5000inches + 0.0060 - 0.0010	0.5060 0.4990	Diameter	0.501
2	End Fitting	0.0300inches ± 0.0300	0.0600 0.0000		0.030
3	End Fitting	0.0170inches ± 0.0300	0.0470 (0.0130)		0.017
4	End Fitting	0.4300inches ± 0.0300	0.4600 0.4000		0.431
5	End Fitting	0.5000inches ± 0.0100	0.5100 0.4900		0.501
6	End Fitting	1.4800inches ± 0.0300	1.5100 1.4500		1.480
7	End Fitting	0.6700inches + 0.0000 - 0.0010	0.6700 0.6690	Diameter	0.670
8	End Fitting	1.4100inches ± 0.0300	1.4400 1.3800		1.408
9	End Fitting	0.1250inches + 0.0040 - 0.0010	0.1290 0.1240	Diameter	0.125
10	End Fitting	0.9300inches ± 0.0300	0.9600 0.9000		0.910
11	End Fitting	0.0200inches ± 0.0100	0.0300 0.0100		0.020
12	End Fitting	45.0000inches ± 0.5000	45.5000 44.5000	Degrees	45°
13	End Fitting	0.0800inches ± 0.0100	0.0900 0.0700		0.081
14	End Fitting	0.2600inches ± 0.0300	0.2900 0.2300		0.263
15	End Fitting	0.1300inches ± 0.0300	0.1600 0.1000	Radius	0.130
16	End Fitting	0.7500inches + 0.0300 - 0.0000	0.7800 0.7500		0.760
17	End Fitting	0.9300inches ± 0.0300	0.9600 0.9000		0.925
18	End Fitting	0.0500inches ± 0.0300 0.50	0.0800 0.0200	Radius	0.500
19	End Fitting	0.0600inches ± 0.0300	0.0900 0.0300	Radius	0.062
20	End Fitting	1.6190inches ± 0.0050	1.6240 1.6140		1.619
21	End Fitting	2.7800inches ± 0.0300	2.8100 2.7500		2.780
22	End Fitting	0.0900inches ± 0.0100	0.1000 0.0800		0.088
23	End Fitting	0.7500inches ± 0.0300	0.7800 0.7200		0.750
24	End Fitting	0.2500inches ± 0.0100 0.249 - 0.250	0.2600 0.2400		0.250
25	End Fitting	0.3800inches ± 0.0300	0.4100 0.3500		0.374

Plex 3/28/19 3:07 PM Dart.lajeunesse.marie

Entered: _____ Date: _____

MLA



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: <u>192 637</u> Part No. <u>D4883-5</u>	DISPOSITION Rework ☐ Scrap ☒ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☒ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐		
Date : <u>19-07-11</u>	Sequence #: <u>120</u>	QTY Affected : <u>1 of 6</u>	MRB (QS1042)	
Description Work Order Deviation		Disposition		Completed By <i>DAS</i> 20 9-89 <u>19-07-11</u>
<u>Engraving is too Deep</u>		<u>Scrap</u> <u>No Replace</u>		Lead hand / Supervisor <i>MLA</i> <u>19/07/11</u>
QC / QA Coordinator <i>DAS</i> 40 9-89 <u>JUL 11 2019</u>				
Root Cause Operator ☐ Manufacturing Process ☒ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐	FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☒ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details: _____				

DART AEROSPACE LTD		Work Order: 192 637
Description: END Fitting		Part Number: D4883-5
Inspection Dwg: D4883 Rev: C		Page 1 of 1

INSPECTION SHEET

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø.500	+0.006/-0.001	.500	✓		SL10	Veru
1.48	+/- .030	1.480	✓			
.030	+/- .010	.030	✓			
.017	+/- .010	.017	✓			
.43	+/- .030	.432	✓			
.500	+/- .005	.500	✓			
2.78	+/- .030	2.780	✓			
1.619	+/- .005	1.619	✓			
29°	+/- .5°	29°	✓		Protractor	
R.06	+/- .030	.062	✓		Rad gauge	
.91	+/- .030	.910	✓			
R.50	+/- .030	.500	✓			
52.1°	+/- .5°	52.1	✓		Rad gauge	
.080	+/- .010	.081	✓		Protractor	
.26	+/- .030	.260	✓			
R.13	+/- .030	.130	✓		Rad gauge	
106°	+/- .5°	106°	✓		Protractor	
.75	+0.030/-0.000	.755	✓			
.090	+/- .010	.088	✓			
.750	+/- .010	.750	✓			
Ø.250	+0.000/-0.001	.250	✓			
R.031	+/- .010	.030	✓		Rad gauge	
1.41	+/- .030	1.410	✓			
Ø.670	+0.000/-0.001	.670	✓		SL02	Mic
Ø.90	+/- .030	.905	✓			
.02 X 45°	+/- .030 X .5°	.020	✓			
Ø.125	+0.004/-0.001	.125	✓			
29.6°	+/- .5°	29.6°	✓		Protractor	
30.4°	+/- .5°	30.4°	✓		"	

Measured by: 20 9-89	Checked by: [Signature]	QC Inspector:
Date: 19-07-10	Date: 19/07/11	Date:

Engineering Approval: (if necessary)	Date:
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Rev	Date	Change	Revised by	Approved
B	14.07.31	New Issue	KJ	



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB043988



Supplier: SKY002-VC
Skyservice
6120 Midfield Road
Mississauga
ON
L5P 1B1 Canada
Phone: 905-678-5636
Fax: 905-678-5841

Attention: Jenne, Heather

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: POHB043988
PO Date: 7/12/19
Due Date: 7/12/19
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Phone:

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	195485	D4464-041	Fuel Tank Assembly : Various STC's ISSUE P/O : LIQUID PENETRANT INSPECTION AS PER QSI 038 OR LPI AS PER ASTM 1417 LEVEL 2	Firmed	-	7/12/19	1 pcs	0 pcs	1 pcs	\$395.00/pcs	\$395.00
2	192637	D4883-5	End Fitting : Various STC's (Outsource process - NDT per QSI038 4.1) Issue P/O:	Firmed	-	7/12/19	5 pcs	0 pcs	5 pcs	\$92.60/pcs	\$463.00
3	196765	D130-1048-042	H130/EC130 - Replacement Skidtube - Standard - RH : TC STC SH19-4 Issue 1, FAA STC SR04320NY dated 19/03/26 (Outsource process - NDT per QSI038 4.1), ISSUE P/O: Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order NDT C OF C IS REQUIRED	Firmed	-	7/12/19	1 pcs	0 pcs	1 pcs	\$150.00/pcs	\$150.00
4	196761	D130-1048-041	H130/EC130 - Replacement Skidtube - Standard - LH : TC STC SH19-4 Issue 1, FAA STC SR04320NY dated 19/03/26 (Outsource process - NDT per QSI038 4.1), ISSUE P/O: Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order NDT C OF C IS REQUIRED	Firmed	-	7/12/19	1 pcs	0 pcs	1 pcs	\$150.00/pcs	\$150.00

Grand Total: \$1,158.00

Plex 7/12/19 1:19 PM Dart.Guerin.Kimberley



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB043988



Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 7/12/19 1:19 PM Dart.Guerin.Kimberley

**skyservice****Work Order Traveler**
Sky Service F.B.O. Inc.

10105 Ryan Avenue, Dorval, Quebec, H9P 1A2

TCCA AMO 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO41020	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: POHB043988
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	
Task: UNSCHEDULED			Sequence: 1

Work Required:**CARRY OUT NDT ON:**

- ✓ 1 FUEL TANK ASSY, P/N: D4464-041, J/S: 195485 \$395.
- ✓ 5 END FITTINGS, P/N: D4883-5, J/S: 192637 \$63.00
- ✓ 2 SKIDTUBES, P/N: D130-1048-042, J/S: 196765, 196761 150 each.

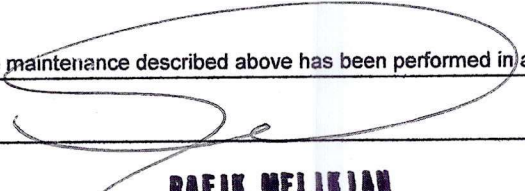
Action Taken:						Date:	Initial/Stamp:
LPI C/O IAW ASTM E-1417M-16 NO CRACK FOUND LEAK FOUND AROUND A RIVET ON THE FUEL TANK ASSY PEN. ZL-56, MPO13600, CLEANER SKC-S MPO13923, DEV. MPO11715, UV LIGHT M-20142						JUL 12 2019	
DAS 40 9-89							
<i>Description</i>	<i>Location</i>	<i>P/N</i>	<i>Qty</i>	<i>Batch</i>	<i>S/N Off</i>	<i>S/N On</i>	

RECEIVED

JUL 12 2019

DART AEROSPACE LTD.

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature: 	ACA/SCA Stamp DOT-APP 20 53-89	Date: JUL 12 2019
Name: RAFIK MELIKIAN		